

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A re-configurable wavelength selective device comprising:

an input fiber, where a signal comprising multiple wavelengths $\lambda_1, \lambda_2, \dots, \lambda_n$ is brought into the device, and

a cross-connect switch which includes a plurality of input port fibers and an array of micro-mirror actuators; and

two output fibers, one for a selected wavelength λ_i and the other for the remaining wavelengths $\lambda_1, \lambda_2, \dots, \lambda_{i-1}, \lambda_{i+1}, \dots, \lambda_n$ which pass through the device unaffected.
2. (Original) A re-configurable wavelength selective device comprising:

a MEMS cross-connect switch, comprising a plurality of input port fibers, at least one array of micro-mirror actuators, and an array of output fibers, said cross-connect switch configured so that an optical signal received from any one of the input fibers may be directed to any one of the output fibers via the micro-mirror array,

an optical circulator having a first port, a second port and a third port, wherein light entering the first port exits the second port, light entering the second port exits the third port, and light entering the third port exits the first port.

a fiber optic coupler configured to combine all of the cross-connect switch output branches so that unselected wavelength channels exit the re-configurable wavelength drop through a single fiber port, and

a plurality of fiber Bragg gratings (FBGs) configured to provide narrow band 20 spectral filtering by retro-reflecting the Bragg wavelength.

3. (New) The re-configurable wavelength selective device of claim 1, further comprising:

an optical circulator wherein the signal containing multiple wavelengths is input into the cross connect switch, via the optical circulator.

4. (New) The re-configurable wavelength selective device of claim 3, wherein the output fiber for the selected wavelength λ_i is output from said optical circulator.

5. (New) The reconfigurable wavelength selective device of claim 1, wherein the cross-connect switch further comprises a plurality of output fibers that each include Fiber Bragg gratings.

6. (New) The reconfigurable wavelength selective device of claim 1, wherein the cross-connect switch further comprises an array of output fibers, wherein a signal received at any of the input port fibers may be output via any one of the output

7. (New) The re-configurable wavelength selective device of claim 6, further comprising:

a fiber optic coupler configured to combine branches output from the cross-connect switch so that unselected wavelength channels exit through the other of the two output fibers.

8. (New) The reconfigurable wavelength selective device of claim 1, wherein the micro-mirror actuators further comprise a pair of orthogonal single axis mirror actuators.

9. (New) A reconfigurable dispersion compensation device, comprising:
an input fiber including a corrupted signal; and
a cross-connect switch that receives the corrupted signal and directs the corrupted signal to one of a plurality dispersion compensation gratings for imparting a compensating dispersion to the corrupted signal, the cross connect switch further comprising an array of micro-mirror actuators and an output for providing a compensated signal.

10. (New) The device of claim 9, further comprising:
a circulator for receiving the corrupted signal and for outputting the compensated signal.

11. (New) The device of claim 9, wherein the dispersion compensation gratings are Fiber Bragg Gratings.

12. (New) The device of claim 11, wherein each of the Fiber Bragg Gratings includes a unique period variation.

13. (New) The device of claim 9, wherein the micro-mirror actuators further comprise a pair of orthogonal single axis mirror actuators.

14. (New) The device of claim 10, wherein the compensated signal is passed through the circulator and to the output fiber.

15. (New) The device of claim 2, wherein the micro-mirror actuators further comprise a pair of orthogonal single axis mirror actuators.

16. (New) The device of claim 2, wherein each of the Fiber Bragg Gratings includes a unique period variation.